Technology Bucket	Category	Description
Smart Automation	Hardware	We need a centralized monitoring system for streetlights in Indian cities. An innovative solution with real-time fault detection, precise location tracking of faulty street lights, and efficient fault management capabilities can reduce workload and ensure timely maintenance. Authorities must proactively address faults, enhance service quality, and optimize maintenance processes. Let's solve this with an "Automated Defect Detection and Prevention Assistance with Effective Governance for Cities in India."

Smart Automation	Hardware	Ideas focused on the intelligent use of resources for transforming and advancements of technology with combining the artificial intelligence to explore more various sources and get valuable insights.

Smart Automation	Hardware	Students are supposed to use Fusion 360 Software to generate NC code with machine details & tool library for any industrial component. Students should possess technical skills in areas such as CAD/CAM software, G-code programming, toolpath optimization, and machining fundamentals. Additionally, their project ideas should demonstrate a viable solution to a real-world problem, ensuring feasibility and practicality in implementation. For additional information and a detailedproblem statement, please visit: https://damassets.autodesk.net/content/dam/autodesk/www/pdfs/sih-2023-hardware-edition-cnc.pdf

Smart Automation	Hardware	Manual cleaning of sewers and septic tanks without safety kits is still being practiced in many parts of the country, resulting in fatal accidents. The presence of hazardous gases in sewers and septic tanks makes the atmosphere dangerous. Even with the use of safety devices, cleaning can still be risky. A device is needed to monitor the availability of these gases and alert the supervisor if the atmosphere is not suitable for entry. Such a device can save lives.

Smart Automation	Hardware	Public lighting is often left on during the daytime, wasting energy. Current methods for controlling lighting, such as manual switching or timers, have not been very effective. A smart lighting system controlled by IoT could adjust illumination dynamically and record consumption, resulting in lower operating costs and quicker identification of defective lighting systems.

Smart Automation	Hardware	An AI-powered energy management system can help businesses reduce energy costs and environmental impact by optimizing energy consumption through machine learning algorithms and data analytics. It automates energy-consuming devices and integrates with existing building automation systems to improve operational efficiency.
Smart Vehicles	Hardware	Creating intelligent devices to improve the commutation sector

Smart Vehicles	Hardware	Redesign a conventional automotive component using Fusion 360 software. Utilize generative design, topology optimization, and additive build features to improve efficiency and showcase innovation. The component should be optimized for 3D printing. Visit https://damassets.autodesk.net/content/dam/autodesk/www/pdfs/si for more information.

Smart Vehicles	Hardware	Telemetry data is crucial for fleet management but the port may not always be accessible. A Telematic Control Unit (TCU) accurately captures vehicle data from various sensors and systems, provides wireless connectivity, real-time monitoring, and an easy-to-use dashboard. It should be easily integrated with existing fleet management systems or third-party applications.